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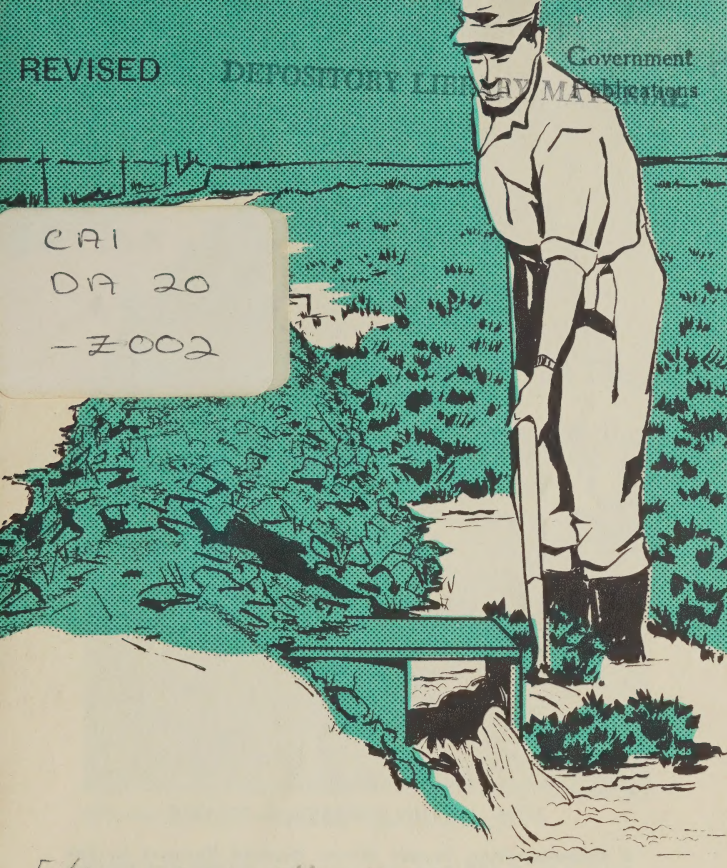

[General publication]
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PRE-DEVELOPMENT FARM PFRA

Prairie farms rehabilitation administration

CANADA DEPARTMENT OF AGRICULTURE

PRE-DEVELOPMENT FARM

A Demonstration Center Where Dryland Farmers in the Area of the South Saskatchewan River Project Can Observe the Results of Irrigation Farming.

Mill and feedlot, Pre-Development Farm.

PROGRAM

Although the program of the Farm tends to be more complex than would normally be found on a regular irrigation farm, parallels can be drawn in several ways. Following a basic 10-year crop rotation plan, a program for soil improvement has been employed using commercial fertilizers, manure and legumes. In the rotation, the plan calls for three main crops. The first 6 years are given over to the production of forage crops, followed by 1 of cereals, 1 of row crops and, finally, 2 years of cereals. Recognizing the importance of irrigation to a potential livestock industry, special emphasis is placed on forage crop production.

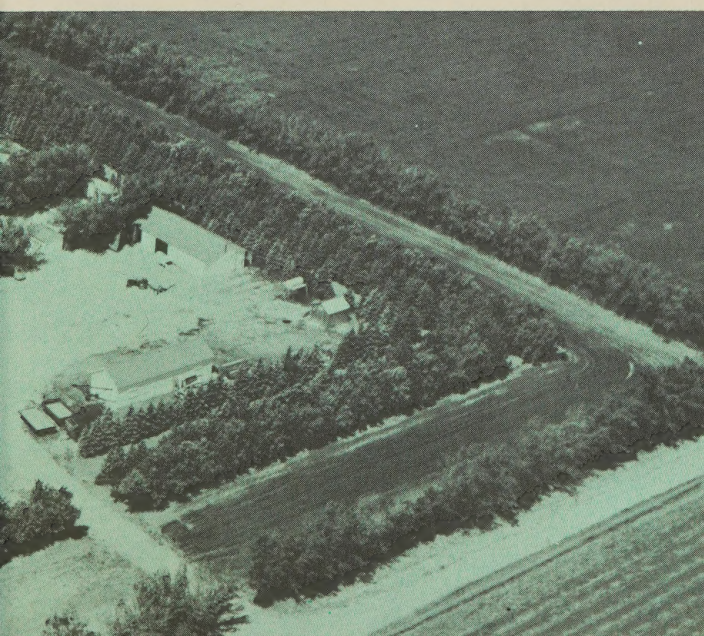
The higher part of the Farm, which cannot be reached by a gravity ditch, is irrigated by the sprinkler method. The efficiency of various types of sprinkler irrigation equipment has been studied and useful comparative data obtained on both gravity and sprinkler methods.

Soil at the Pre-Development Farm falls into two categories, each requiring different fertilizer and irrigation treatment.

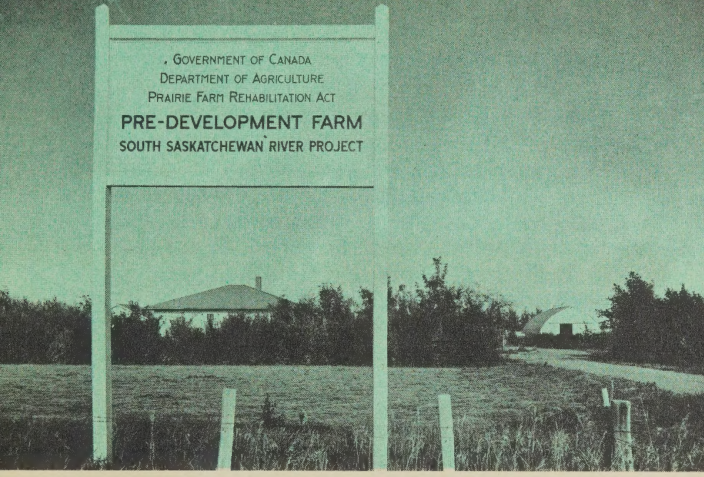
Wheel move sprinkler irrigation system.

Irrigating field of oats by gravity method.

Main irrigation canal.



Irrigating potato crop.



Entrance sign.

PFRA PRE-DEVELOPMENT FARM

The Canada Department of Agriculture established the Pre-Development Farm in 1949 at the town of Outlook, Sask., under the direction of the Prairie Farm Rehabilitation Administration, on land donated by the town.

The Pre-Development Farm has become a demonstration center where the techniques of irrigation farming are illustrated and information is provided on the production potential of various crops which might be grown in the area to be served by the South Saskatchewan River Dam Project.

When the South Saskatchewan River Dam is completed in 1966 and the reservoir is filled, water for irrigation of half a million acres of dry land will be available. Most of the land that will come under irrigation in the years ahead, lies in an area between the Dam and Saskatoon.

The operation of an irrigated farm requires a different concept than that to which dryland farmers are accustomed. Since few farmers in this region had experience with irrigation, it was considered advisable to establish an irrigation illustration station before completion of the SSRD Project—and hence the title: "Pre-Development Farm".

FARM LAYOUT

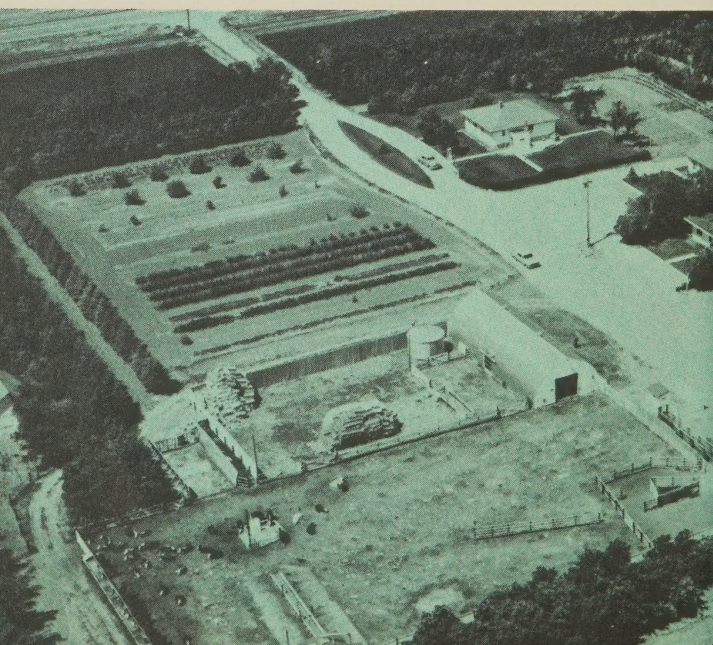
The Pre-Development Farm has been established on a farm scale and covers approximately 155 acres of land. This is divided into 10 fields of 10 to 12 acres each. A pasture area occupies another 21 acres, while the farmstead, complete with tree belts, covers 11 acres. About 10 acres are in ditches, roads and field hedges. Most of the 10 crop fields have been utilized in a 10-year rotation program, with 5 fields and the pasture being irrigated by the gravity method, and 5 by the sprinkler system.

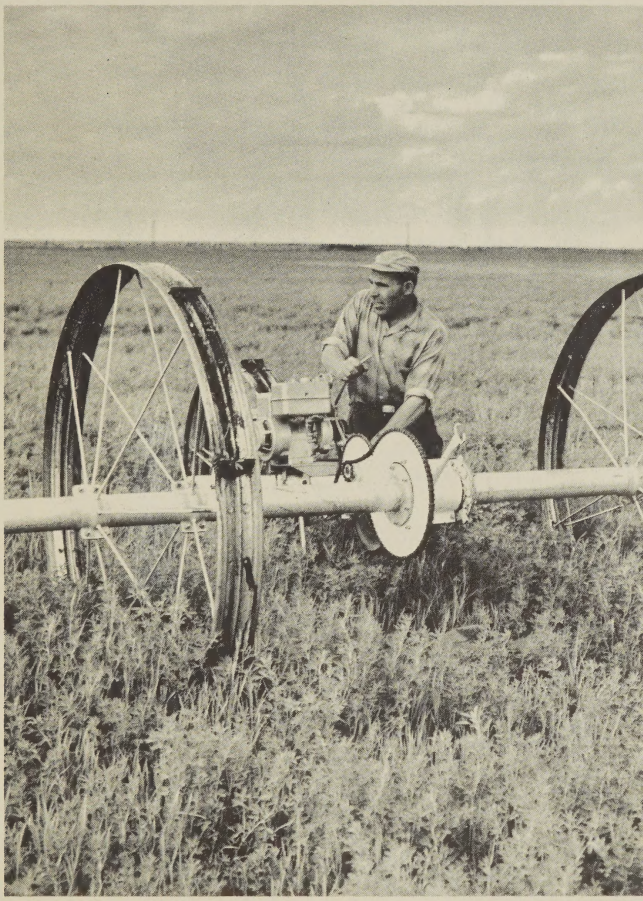
Water for the operation at the Pre-Development Farm is pumped from the South Saskatchewan River. It is supplied to the Farm and to adjacent research plots by an electrically-driven centrifugal pump which feeds 3 cubic feet of water per second through a 12-inch pipeline 2,600 feet long, and delivers it to a gravity ditch from where distribution can take place. A $1\frac{1}{2}''$ plastic pipeline connected to the Outlook town water supply provides water for domestic use on the Farm.

In the corner of the farmstead, close to a dugout, a beef cattle feedlot operation has been established, while a portion of the farmstead has been turned into an orchard.

When water for irrigation is supplied from the SSRD reservoir, it will be delivered to the individual farms via canals.

Pre-Development Farm at Outlook, Sask.





Starting motor which drives wheel move sprinkler.

IRRIGATION AND CROPPING

As a result of the interest of the various agencies, a much wider variety of crops has been grown on the Pre-Development Farm than would otherwise be the case. Cereals produce well in the rotation with hay crops; alfalfa and forage grasses have given good yields of hay. Suitable forage mixtures on irrigated pastures offer possibilities for high returns from livestock. Four row-crops—potatoes, corn, sugar beets and sunflowers—have been grown with satisfactory results. In addition, eight kinds of fruit and berries have been tried including strawberries, raspberries, gooseberries, plums, currants, apples, crabapples and sand cherries. Through this program, the Farm has demonstrated to farmers which crops and types of irrigation they might consider when switching from

a dryland farming operation to an irrigation enterprise.

The several years of experience gained by the Farm has also established certain basic principles with respect to irrigation farming in the area. Of these, some of the more important include:

- PROCESSING AND MARKETING. These are important considerations in irrigation, particularly as it applies to the growing of row crops.
- SEQUENCE OF CROPS. Crops grown in a rotation must be such that one does not interfere with the other.
- SOIL MANAGEMENT. Crops produced must serve to maintain soil fertility.
- KINDS OF CROPS. Crops grown must fit in with other farm enterprises so as to make the most efficient use of farm machinery and labor.

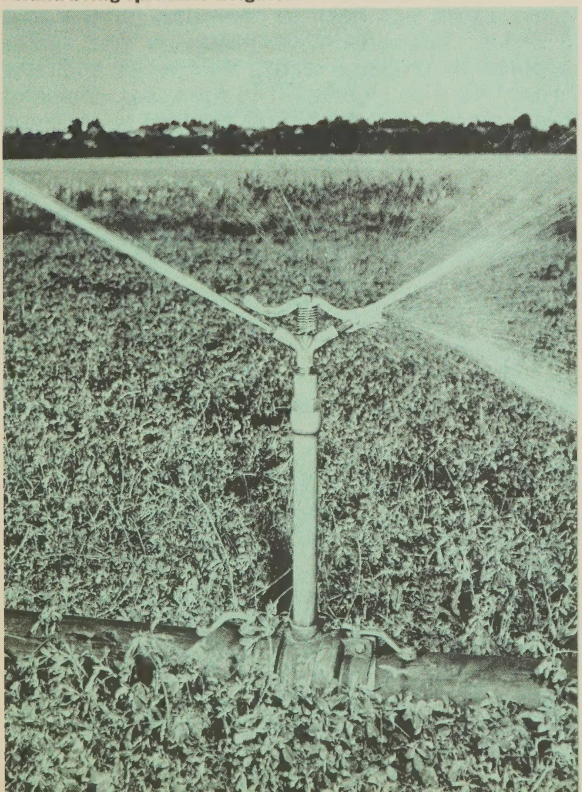
Records are maintained at the Pre-Development Farm to indicate costs of particular operations. More usually, however, returns are measured in terms of production units. In this form the information can be taken by the farmer and interpreted in relation to his own farming enterprises and according to the monetary return he considers reasonable.

Inspecting wheat produced under irrigation.

Use of irrigation for hay production emphasized.

Forage harvester at Pre-Development Farm.

Alfalfa being sprinkler irrigated.



RESEARCH

The Farm, while primarily intended for demonstration purposes, also provides an opportunity for research beyond the experimental plot stage. In particular, this involves working closely with the Department's Research Branch which operates an experimental area adjacent to the Farm property. Here, detailed studies are conducted on a variety of crops to test their efficiency under irrigation, their water requirements and effect of fertilizer needs. A meteorological station has also been established to provide information on precipitation, temperature, humidity, wind velocity, hours of sunshine and other weather data of value to farm and research operations alike.

Other operations at the Farm serve a twofold purpose, in that they provide information from both the research and demonstration point of view. The Agricultural Engineering Department of the University of Saskatchewan is interested in determining the performance of various irrigation structures and methods of applying water. The Farm Management Department of the University has been interested in the findings of a mechanical grazing program which has been in operation for the past 3 years. The effects of fertilizers and water application on field crops, fruit trees and row crops, are also significant to the researcher and fundamental to future farm development under irrigation.

Research plots.

Prepared by Information Division,
Canada Department of Agriculture

ROGER DUHAMEL, F.R.S.C.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1965
Catalogue No. A22-5965

5M — 32619 — 6:65